

AMENDMENTS TO CLAIMS

1. (Currently Amended) A method of manufacturing an optical component having at least one photo-oriented polymeric layer provided on a substrate, wherein the method includes the steps of:

providing a single source of laser radiation;

splitting the laser radiation into a first beam of linearly ~~polarised~~polarized light having a first plane of ~~polarisation~~polarization, and a second beam of linearly ~~polarised~~polarized light having a second plane of ~~polarisation~~polarization;

directing the first beam of linearly ~~polarised~~polarized light onto a first area or areas of at least one photo-orientatable polymeric layer to cause a first molecular orientation in the first area or areas of the layer; and

directing the second beam of linearly ~~polarised~~polarized light onto said photo-orientatable polymeric layer to cause a second molecular orientation in a second area or areas of the layer.

2. (Currently Amended) A method according to claim 1 wherein the arrangement is such that the second beam of linearly ~~polarised~~polarized light arrives at the photo-orientatable polymeric layer a predetermined delay time after the first beam of linearly ~~polarised~~polarized light.

3. (Original) A method according to claim 2 wherein the predetermined delay time is sufficient for the first beam to have caused the first molecular orientation in the first area or areas of the photo-orientatable polymeric layer before the second beam arrives.

4. (Currently Amended) A method according to claim 2 [~~or claim 3~~] wherein the predetermined delay time is in the order of nanoseconds.

Claim 5. (Cancelled)

6. (Currently Amended) A method according to [~~any one of the preceding claims~~]claim 1 wherein the first beam is directed onto the first area or areas of the photo-orientatable polymeric layer through a mask.

7. (Original) A method according to claim 6 wherein the second beam is directed onto the second area or areas of the photo-orientable polymeric layer through a mask.

8. (Currently Amended) A method according to ~~[any one of claims 1 to 6]~~ claim 1 wherein the second beam is directed onto the entire area of the photo-orientable polymeric layer including the first and second areas.

9. (Currently Amended) A method according to ~~[any one of the preceding claims]~~ claim 1 wherein the energy of each of the first and second beams is less than the energy required to cause laser ablation of the photo-orientable polymeric layer.

10. (Currently Amended) A method according to ~~[any one of the preceding claims]~~ claim 1 wherein the ratio of the energy of the first beam to the energy of the second beam is approximately 2:1 energy units.

Claims 11-25. (Cancelled)

26. (Currently Amended) A method according to ~~[any one of the preceding claims]~~ claim 1 wherein the energy of each of the first and second beams is less than the cohesive/adhesive forces adhering the photo-orientable layer to the substrate.

27. (Currently Amended) An apparatus for manufacturing an optical component having at least one photo-oriented polymeric layer, wherein the apparatus comprises:

a single source of laser radiation;

beam splitting means for splitting the laser radiation into a first beam of linearly ~~polarised~~ polarized light having a first plane of polarisation and a second beam of linearly ~~polarised~~ polarized light having a second plane of ~~polarisation~~ polarization;

first directing means for directing the first beam of linearly ~~polarised~~ polarized light onto a first area or areas of at least one photo-orientable polymeric layer to cause a first molecular orientation in said first area or areas of the layer; and

second directing means for directing the second beam of linearly ~~polarised~~ polarized light onto said at least one photo-orientable polymeric layer to cause a second molecular orientation in a second area or areas of the layer;

wherein the apparatus includes delay means for the second beam of linearly ~~polarised~~ polarized light so that the second beam arrives at the photo-orientatable layer a predetermined delay time after the first beam of linearly ~~polarised~~ polarized light.

28. (Currently Amended) An apparatus according to claim 27 wherein the second beam of linearly ~~polarised~~ polarized light is reflected off a plurality of mirrors before it is directed onto the photo-orientatable polymeric layer.

29. (Currently Amended) An apparatus according to claim 27 ~~[or claim 28]~~ wherein the first beam of linearly ~~polarised~~ polarized light is directed onto the photo-orientatable layer through a mask so that only the first area or areas of the photo-orientatable polymeric layer are exposed to the first beam.

30. (Currently Amended) An apparatus according to ~~[any one of claims 27 to 29]~~ claim 27 wherein the second beam of linearly ~~polarised~~ polarized light is directed onto the second area or areas through a mask.

31. (Currently Amended) An apparatus according to claim 29 ~~[or claim 30]~~ wherein the mask is formed from any one of the following:

chrome; or

quartz; or

a dielectric material.

32. (Currently Amended) An apparatus according to ~~[any one of claims 27 or 29]~~ wherein claim 27 the second beam is directed onto the entire area of the photo-orientatable polymeric layer including the first and second areas.

33. (Currently Amended) An apparatus according to ~~[any one of claims 27 to 29]~~ claim 27 further including a second beam splitting means for splitting the second beam into a third beam having a third plane of ~~polarization~~ polarization.

34. (Currently Amended) An apparatus according to claim 33 further including third directing means for directing the third beam of linearly ~~polarised~~ polarized light onto said photo-orientatable polymeric layer to cause a third molecular orientation in a third area or areas.

35. (Currently Amended) An apparatus according to ~~[any one of claims 27 to 34]~~
claim 27 further including at least one ~~polarization~~polarization rotator.

36. (Currently Amended) An apparatus according to ~~[any one of claims 27 to 35]~~
claim 27 further including an attenuator to provide energy control for the second beam.

37. (Currently Amended) An apparatus according to ~~[any one of claims 27 to 36]~~
claim 27 further including a diode laser, a cylindrical lens and an adjustment mirror for
aligning the direction of the second beam.

38. (Currently Amended) An optical component which incorporates at least one
photo-oriented polymeric layer formed by the method of ~~[any one of claims 1 to 26]~~ claim 1.

Claim 39. (Cancelled)

40. (Currently Amended) A security document or device including an optical
component formed by the method of ~~[any one of claims 1 to 26]~~ claim 1.

Claim 41. (Cancelled)